

Listing of the Claims:

A listing of the entire set of pending claims is submitted herewith per 37 CFR 1.121. This listing of claims will replace all prior versions, and listings, of claims in the application.

1.(previously presented) A method for fast active scanning on a wireless local area network (WLAN) between a mobile station (STA) and at least one Access Point (AP) comprising:

sending a probe request message by an STA over a particular channel having a particular Access Point in communication with the STA;

receiving by the particular Access Point the probe request message sent by the STA;

sensing by the particular Access Point a point coordination function interframe space (PIFS) of the particular channel; and

sending by the particular Access Point a probe response message to the STA in response to the probe request message after the PIFS without the particular Access Point performing a backoff interval.

2.(canceled)

3.(previously presented) The method according to claim 1, wherein the probe request message is a uni-cast message to the particular Access Point.

4.(previously presented) The method according to claim 1, wherein if the STA does not receive a probe response message within a predetermined time period, the STA senses a distributed coordination function interframe space period (DIFS) interframe space, wherein the STA selects and implements a backoff interval prior to broadcasting the probe request message on the particular channel to all available Access Points.

5.(previously presented) The method according to claim 1, wherein if the STA does not receive a probe response message within a predetermined time period, the STA senses a distributed coordination function interframe space period (DIFS) interframe space, wherein the STA selects and implements a backoff interval prior to broadcasting the probe request message on a channel different than the particular channel.

6.(previously presented) The method according to claim 1, wherein if the STA does not receive a probe response message within a predetermined time period, the STA selects another Access Point on the particular channel and senses a distributed coordination function interframe space period (DIFS) interframe space, wherein the STA selects and implements a backoff interval prior to sending another probe request message that comprises a uni-cast message.

7.(previously presented) The method according to claim 1, wherein if the STA does not receive a probe response message within a predetermined time period, the STA selects another Access Point on a different channel and senses a distributed coordination function interframe space period (DIFS) interframe space, wherein the STA selects and implements a backoff interval prior to sending another probe request message that is a uni-cast message.

8.(previously presented) The method according to claim 4, wherein said backoff interval having a range of (0, CW), where CW denotes a Contention Window.

9.(previously presented) The method according to claim 3, wherein only the particular Access Point transmits after the PIFS interframe in response to receiving the uni-cast probe request message from an STA.

10.(previously presented) The method according to claim 1, further comprising:

acknowledging receipt of a probe response message by the STA in response to the probe request message; and
continuing a hand-off function by the STA with the particular Access Point.

11.(previously presented) A method for fast active scanning in a wireless local area network (WLAN) between a mobile station (STA) and at least one Access Point (AP) comprising:

sending a probe request message comprising a uni-cast message by an STA on the particular channel having at least one Access Point in communication with the STA;
receiving by a particular Access Point the probe request message sent by the STA;

preparing a probe response message by the particular Access Point;
sensing by the particular Access Point a point coordination function interframe space (PIFS) of the particular channel; and

sending by the particular Access Point a probe response message to the STA in response to the probe request message without the particular Access Point performing a backoff interval.

12.(previously presented) The method according to claim 11, wherein if a predetermined time period passes without a response from the particular Access Point, after sensing a distributed coordination function interframe space period (DIFS) interframe space, the STA selects and implements a backoff interval prior to broadcasting a probe request message on the particular channel.

13.(previously presented) A method for providing handoffs by fast active scanning on a wireless local area network (WLAN) between a mobile station associated with a first Access Point to a new Access Point, said method comprising:

sensing, by the mobile station, for a distributed coordination function interframe space period (DIFS) of a particular channel;

sending a probe request message by the mobile station throughout the particular channel having at least one new Access Point;

receiving by said at least one new Access Point the probe request message sent by the mobile station;

preparing a probe response message by the new Access Point;

sensing by the new Access Point a point coordination function interframe space (PIFS) of the particular channel;

sending by said new Access Point a probe response message to the mobile station in response to the probe request message without performing a backoff interval; and

said the mobile station authenticating and re-associating with said new Access Point, followed by the mobile station being handed-off to said new Access Point.

14.(canceled)

15.(previously presented) An Access Point in a wireless local network (WLAN) that provides priority to facilitate a handoff of a station between one or more Access Points, comprising:

a probe request sensing unit sensing when a probe request message has been sent on a particular communication channel;

an interframe communication sensing unit sensing a point coordination interframe space (PIFS) on the particular communication channel; and

probe response sending means sending the probe response message after the PIFS sensed by the interframe communication sensing unit without performing a backoff interval.

16.(previously presented) The Access Point according to claim 15, wherein the interframe communication sensing unit and the probe response means sense a distributed coordination function (DCF) interframe space period (DIFS) of a particular

channel and respond to probe requests with non-unicast destination addresses after the DIFS and backoff interval.

17.(previously presented) A fast active scanning system on a wireless local area network between a first station and at least one second station comprising:

a first station sending a probe request message over a particular channel having a particular second station] in communication with the first station;

means for receiving by said particular second station the probe request message sent by the first station, said means includes sensing by said particular second station a point coordination function interframe space of the particular channel; and

said particular second station sending a probe response message to the first station in response to the probe request message after the point coordination function interframe space is sensed without performing a backoff interval.

18.(canceled)

19.(previously presented) The system according to claim 17, wherein the probe request message sent by the first station comprises a uni-cast message to the particular second station.

20.(previously presented) The system according to claim 17, wherein if a probe response message from the particular second station is not received within a predetermined time period, the first station senses a distributed coordination function interframe space period, and the first station selects and implements a backoff interval prior to broadcasting a probe request message on the particular channel to all available second stations.

21.(previously presented) The system according to claim 17, wherein if the first station does not receive a probe response message from the particular second station within a predetermined time period, the first station senses a distributed coordination

function interframe space period, and the first station selects and implements a backoff interval prior to broadcasting a probe request message on a channel different than the particular channel.

22.(previously presented) The system according to claim 17, wherein if the first station does not receive a probe response message from the particular second station within a predetermined time period, the first station selects another second station on the particular channel and senses a distributed coordination function interframe space period, and the first station selects and implements a backoff interval prior to sending another probe request message that comprises a uni-cast message.

23.(previously presented) A first station in a wireless local network that provides priority to facilitate a handoff between one or more second stations, comprising:

- a probe request sensing unit sensing when a probe request message has been sent on a particular communication channel;

- an interframe communication sensing unit sensing a point coordination interframe space on the particular communication channel; and

- probe response sending means for sending a probe response message after the point coordination function interframe space sensed by the interframe communication sensing unit without performing a backoff interval.

24.(previously presented) The first station according to claim 23, wherein the interframe communication sensing unit and the probe response sending means sense a distributed coordination function interframe space period of a particular channel and respond to probe requests with non-unicast destination addresses after the distributed coordination function interframe space period and backoff interval.